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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

GREENBUG heavy on wheat in 4 Rolling Plains counties and found on crowns of Johnson grass in Deaf Smith and Castro Counties, Texas. Infesting grain sorghum in Maricopa County, Arizona. (p. 290).

EUROPEAN CORN BORER spring samples in Indiana indicate a low winter mortality. (p. 290).

A WEEVIL damaged untreated field corn and sweet corn in Palm Beach County, Florida. (p. 290).

PALE WESTERN CUTWORM damaged wheat in southwestern Nebraska. Building up rapidly in northeastern Colorado. (p. 291).

ALFALFA WEEVIL adults returning to fields in central Maryland; caused some terminal damage to alfalfa in southeast Missouri; buildup slow in southern third of Illinois; some fields in Faulkner County, Arkansas, being treated. (pp. 291-292).

HORN FLY buildup increased on beef and some dairy herds in southern and central Alabama. (p. 299).

Detection

A LEAFHOPPER reported for the first time in Hawaii, considered an important pest of avocado in Ecuador. Reported on papaya in Florida. (p. 301).

For new county records see page 301.

Some First Occurrences of Season

PEA APHID in Delaware, TARNISHED PLANT BUG adults in Delaware, MEADOW SPITTLEBUG nymphs in Delaware and Oregon, and EASTERN TENT CATERPILLAR adult in Florida.

Special Reports

Bee Leafhopper Survey, Texas and New Mexico - 1969. Population counts higher in areas surveyed in 1969 than in 1968. (p. 289).

Distribution of Egyptian Alfalfa Weevil (map). (p. 302).

Reports in this issue are for week ending April 18 unless otherwise indicated.

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WEATHER BUREAU'S 30-DAY OUTLOOK

MID-APRIL TO MID-MAY

The Weather Bureau's 30-day outlook for mid-April to mid-May is for temperatures to averaged above seasonal normals across most of the northern half of the Nation. Below normal averages are expected over coastal regions of California, Texas, and the Carolinas, while near normal is in prospect elsewhere. Precipitation is expected to exceed normal over the Pacific Northwest coast and over an area extending from the southern Plains to the south Atlantic coast. Subnormal totals are indicated over the northern Mississippi Valley, northern New England, and portions of the southern plateau. Near normal amounts are expected over unspecified areas.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

WEATHER OF THE WEEK ENDING APRIL 21

HIGHLIGHTS: The West cooled; the East continued mild. Heavy thunderstorms occurred in the Deep South.

PRECIPITATION: Snow fell early in the central Rocky Mountains early in the week, 8 inches at Rawlins, Wyoming. Severe thunderstorm activity occurred in moist gulf air in central and southern Great Plains. Hail as large as baseballs fell at Comanche, Oklahoma, on Wednesday. Hail also fell in Kansas, Texas, Iowa, Illinois, Missouri, and Arkansas. Winds gusted to 94 m.p.h. at Emporia, Kansas. By Thursday a front stretched from the St. Lawrence River Valley to south-central Texas. Cold rain, sometimes mixed with sleet or snow, made weather generally miserable west of the front. Severe weather -- violent thunderstorms with gusty winds, moderate to heavy showers, some damaging hail, and a number of tornados -- occurred in the warm moist air south and east of the front. More than a dozen tornados occurred from Alabama to the Carolinas on Friday causing at least 1 death, several injuries, and widespread minor damage. Snow fell Saturday from Ohio to New England, accumulating to 6 inches in northern New York. Weekend also brought more showers to the Puget Sound area in Washington. Weather of the week continued on page 294.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

Beet Leafhopper Survey, Texas and New Mexico - 1969

The beet leafhopper (Circulifer tenellus) survey in Texas was begun February 24 and completed March 21. The survey in New Mexico was conducted February 25-27. The survey was conducted in 32 counties in Texas and 6 counties in New Mexico, with 68 stops made in Texas and 24 stops in New Mexico. Host plants were present at 88 percent of the stops in Texas and 79 percent of the stops in New Mexico. The number of beet leafhoppers per 100 square feet was 31 in Texas and 35 in New Mexico.

Significant observations: Texas - The winter was extremely dry in the area covered by the survey. This is favorable to high beet leafhopper populations. Host plants were widespread. Plant condition was good; maturity was advanced except in northern portion of survey area. Beet leafhoppers were found at the rate of 31 per 100 square feet in 1969 compared with 7 per 100 square feet in 1968. New Mexico - Host plants were sparse, and many were in poor condition. Beet leafhopper population counts increased to 35 per 100 square feet in 1969 compared with 5 in 1968.

In order that the survey information be more specific, the following breakdown is presented.

TEXAS - High Plains Area. Beet leafhopper counts increased in 1969 in the sugar-beet area of Morton, Muleshoe, Hereford, Dimmit, and Canyon.

Winter Garden Area. Population is about the same as in 1968. Some population shift was noted, counts being higher in the immediate vicinity of Crystal City. Very few beet leafhoppers had been caught on stickyboard traps maintained at migrating altitude (about 5 feet above ground) around spinach fields at Crystal City by March 7.

Rolling Plains and Edwards Plateau Area. Beet leafhopper populations were distributed over entire 9-county route. Counts were heaviest in the Davis Mountains, Toyahvale, and Balmorhea vicinity.

El Paso and Trans-Pecos Area. This area produced two-thirds of the beet leafhoppers found during the entire 1969 survey. Counts were heavy and greatly increased over past years in the El Paso Valley.

NEW MEXICO - The main beet leafhopper increases occurred in the El Paso Valley from the State line to Las Cruces, and in the Roswell and Dexter area. A marked decrease in host plants and beet leafhoppers was noted in the Hatch and Truth or Consequences area. (PPC and cooperating agencies).

BEEF LEAFHOPPER (Circulifer tenellus) - WYOMING - Cooperative survey conducted in wasteland adjacent to sugarbeet areas in Washakie and southern Big Horn Counties. Population smaller than year ago. Averaged 0.12 per square foot of weed hosts. (Lowry et al.).

ARMY CUTWORM (Chorizagrotis auxiliaris) - NEBRASKA - Widespread, mostly noneconomic on wheat and alfalfa in 46 fields in 6 southwest and 2 southern panhandle counties. Range per linear foot in wheat by county: Keith 1-8, Deuel and Chase 0-4, Cheyenne 1-4, Perkins 2-5, Dundy 1-3, Hitchcock and Hayes 0-1. (Keith et al., Apr. 12-16). Ranged 0-1 per crown in 3 alfalfa fields in Chase and Dundy Counties and 1-10 in 6 fields in Red Willow County. (Keith Apr. 9-16). Larvae half grown to nearly full grown. (Keith). WYOMING - Larvae 0-2 (average 0.3) per linear foot on wheat April 11 at Dwyer, Platte County. (Parshall). COLORADO - Larvae 0-4 per linear foot of drill row of wheat in Kelim area, Weld County. Controls being applied. Damage light in northeast area. (Johnson, Wedderburn). OKLAHOMA - Mostly this species damaging early grasses and flowers in yards in Noble and Payne Counties. (Okla. Coop. Sur.).

ARMYWORM (Pseudaletia unipuncta) - MISSOURI - First larvae of season observed in Cape Girardeau County on April 16. Only few first and second stage larvae found. (Munson).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Moderate on Tillman County wheat. (Okla. Coop. Sur.).

GREENBUG (Schizaphis graminum) - NEBRASKA - None detected in 46 fields in 6 southwest and 2 panhandle counties. (Keith, Apr. 12-16). KANSAS - Light, 0-3 per row foot, in Butler County. (Redding). OKLAHOMA - Very light on wheat in northern half of State. Moderate to heavy in Grady, Oklahoma, Cotton, and Tillman Counties. (Okla. Coop. Sur.). TEXAS - Found just below soil surface on crowns of Johnson grass (Sorghum halepense) in Deaf Smith and Castro Counties April 14. Apparently decreasing on small grains in some panhandle counties. Counts reduced in Castro County. Numerous braconids and lady beetles noted in these fields. Greenbug ranged 2,000-5,000 per row foot in dryland wheatfield in Randall County north of Canyon; 2,000-4,000 per row foot east of Silverton, Briscoe County. Damage evident in both fields. Wheat generally good in area; greenbug well under control. (Daniels). Decreased in Rolling Plains area; only Cottle, King, Foard, and Motley Counties reporting heavy infestations. Large acreages reported being sprayed in Foard County. Beneficial insects building up in these counties. Greenbug reported lighter in Wilbarger, Wichita, Childress, Archer, and Hardeman Counties. (Boring). NEW MEXICO - Light to heavy on wheat in Curry and Roosevelt Counties. Controls being applied to irrigated wheat in Clovis area. (Campbell). ARIZONA - Averaged about 30 per linear foot of 3-inch grain sorghum in east Chandler area, Maricopa County. Treatments reported on some young stands. (Ariz. Coop. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Averaged 400 per square foot of alfalfa in Tillman County. Moderate to heavy in Garvin County. None seen in Payne and Noble Counties. (Okla. Coop. Sur.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - INDIANA - Cornstalk samples from southwest and south-central districts yielded 28 prepupae per 100 stalk sections. Spring samples throughout State indicate low winter mortality. Large first flight coupled with heavy damage potential to early corn will be present throughout State. (Huber, Apr. 11). DELAWARE - About 20 percent of overwintering larvae pupated in Sussex County, 8 percent in Kent County, none in New Castle County. (Burbatis).

FALL ARMYWORM (Spodoptera frugiperda) - FLORIDA - Larvae very light on less than 5 percent of untreated young field corn at Belle Glade, Palm Beach County. Collected and determined by W.G. Genung. None yet in buds of young sweet corn at Sanford, Seminole County. (Greene).

A WEEVIL (Hyperodes humilis) - FLORIDA - Damaged 30-35 percent of untreated week-old field corn and 62 percent of untreated sweet corn (3-5 weeks old) at Belle Glade, Palm Beach County; injury due to oviposition, feeding punctures, and larval tunneling. Collected and determined by M.J. Janes and W.G. Genung. (Fla. Coop. Sur.).

GARDEN SYMPHYLAN (Scutigerella immaculata) - IOWA - Collected in cornfield in Webster County. This is new county record. (Iowa Ins. Sur.).

SMALL GRAINS

PALE WESTERN CUTWORM (*Agrotis orthogonia*) - NEBRASKA - Severe damage to wheat in western Perkins and Chase Counties. Larvae economic in all fields surveyed; ranged 1-16 per linear foot. Most larvae about half grown. Injury accentuated by dry conditions; rain April 14-16 helped wheat considerably and slowed cutworm activity. Much of area sprayed. Counts per row foot in southwest district by county: Perkins 0-16; Chase 1-14; Dundy 0-10; Keith, Hitchcock, and Hayes 0. Activity in panhandle lower; larvae 2-4 per foot in Cheyenne County north and south of Sidney. Activity should increase next week. (Keith, Liljegren). COLORADO - Larvae ranged 2-8 per linear foot in wheat at Kelim, Weld County. Controls being applied. Building up rapidly in northeast area; controls necessary. (Johnson, Wedderburn). KANSAS - Ranged 1-5 per row foot on wheat examined in Stanton County. Feeding injury on plant crown below ground level, no apparent damage above ground yet. (DePew).

WHEAT STEM MAGGOT (*Meromyza americana*) - COLORADO - Trace injury on wheat at Nunn, Weld County. (Hantsbarger).

CORN FLEA BEETLE (*Chaetocnema pulicaria*) - ILLINOIS - Averaged 200-300 per 100 sweeps in southern area wheatfields and roadsides. (Ill. Ins. Rpt.).

ENGLISH GRAIN APHID (*Macrosiphum avenae*) - MINNESOTA - Specimen caught April 13 in suction trap at St. Paul after light southerly winds. No aphids in yellow pans placed in same area. (Minn. Ins. Rpt.). FLORIDA - All stages, mostly adults, increasing on mature oats at Gainesville, Alachua County; averaged 2 per sweep. (Mead). Less abundant on rye. (Fla. Coop. Sur.).

BROWN WHEAT MITE (*Petrobia latens*) - NEBRASKA - Averaged 250 per row foot in Hitchcock County wheatfield. (Keith, Menke). KANSAS - Trace in wheat examined in Stanton County. (DePew). COLORADO - Remains light on northeast area wheat. (Johnson). NEW MEXICO - Light to moderate on some wheat in Curry and Roosevelt Counties. (Campbell). NEVADA - Light on barley in Moapa Valley, Clark County. (Yamashita, Zoller).

WINTER GRAIN MITE (*Penthaleus major*) - OKLAHOMA - Up to 100 per linear foot on wheat checked in Noble County. (Okla. Coop. Sur.).

FORAGE LEGUMES

ALFALFA WEEVIL (*Hypera postica*) - MARYLAND - Adults returning to fields in central counties. Averaged 0.7 per square foot in 7-county survey. Adults ranged 6-16 per 10 sweeps in 20-acre field near Beltsville. Larvae present on Eastern Shore and in central areas remain very light. (U. Md., Ent. Dept.). VIRGINIA - Adults and larvae light in Amelia, Nottoway, and Prince Edward Counties. (Innes, Perry, Apr. 11). First instars 3-5 per alfalfa bud in Montgomery County. Adults averaged 40 per 100 sweeps. (Allen). OHIO - Eggs per square foot by county April 8: Monroe 82, Meigs 109, Gallia 203. Adults abundant April 16. Adults less than 10 per 25 sweeps in most fields in north-central counties; averaged 33 per 25 sweeps in one field. About one per sweep in Coshocton County. (Prochaska). INDIANA - Larvae averaged 4 per 100 sweeps in southwest district; ranged 4-20 (average 3) per 100 sweeps in south-central district. Adults ranged 2-4 per 100 sweeps (day sample) in southwest area; 3-22 per 100 sweeps in south-central areas. (Huber). Night samples in Vincennes area, Knox County, averaged 31 per 100 sweeps; in Laconia area, Harrison County, averaged 101 per 100 sweeps. (Wilson, Hintz). Egg hatch from fall deposition begun; spring egg laying increasing in southern areas. Larval feeding on about 1 percent of plants in south-central and less than 1 percent in southwest area. (Huber, Apr. 11). ILLINOIS - Buildup slow, larvae 0-30 and adults averaged 24 per 100 sweeps in southern third of State. Feeding noticeable on 5-20 percent of terminals. In extreme southern area counts and damage much higher with 50 percent terminal feeding; adults 60-160 per 100 sweeps at night; larvae 80 per 100 sweeps.

Larvae averaged 350+ per square foot in one field. (Ill. Ins. Rpt.). Farther north, activity just beginning. Feeding evident on 5-20 percent of terminals; 1-5 larvae per infested terminal. Egg laying and hatch will accelerate. (Ins. Sur. Bull.). MISSOURI - Counts per 10 sweeps ranged 14-43 first, second, and third-stage larvae in southeast area, 3-10 small larvae in south-central area. Egg punctures averaged 30 per square foot in new seeding of alfalfa at Weldon Springs, St. Charles County. (Huggans). All larval stages ranged 100-120 per 10 sweeps in some alfalfa in Pemiscot and New Madrid Counties; chemical controls applied to few fields with 50 percent terminal damage. (Jones). ARKANSAS - Larvae 8-10 per square foot in Mississippi County; about one-fourth of terminals show feeding. Some fields being treated. (Dumas). Some fields being treated in Faulkner County. (Boyer). TEXAS - Survey in Brazos, Wharton, and Burleson Counties revealed adults abundant in most alfalfa examined. Adults particularly numerous in Wharton County near Boling. First positive identifications in Wharton and Burleson Counties. Determinations by H.R. Burke. These are new county records. (Green, Smith). SOUTH DAKOTA - Four adults on stickyboards west of Spearfish, Lawrence County, March 31-April 7. Currently 2 adults April 8-16. (Jones). COLORADO - Adults beginning to feed. Evidence of oviposition noted, but no eggs found in Weld County. (Johnson). First larvae, 2-8 per 100 sweeps, taken April 10 on 2 to 6-inch alfalfa on Western Slope. No larvae found to April 14 in Montrose County. (Bulla). NEVADA - Adults active and eggs present in Lovelock, Pershing County. (Martinelli). CALIFORNIA - H. postica and H. brunneipennis (Egyptian alfalfa weevil) very heavy in much alfalfa in Yolo County; averaged 100 per sweep. Defoliation heavy. (Cal. Coop. Rpt.).

CLOVER LEAF WEEVIL (Hypera punctata) - KANSAS - Larvae 8-17 per 10 sweeps of alfalfa in Lyon and Coffey Counties. (Simpson). OHIO - Two larvae collected in alfalfa in Seneca County. (Tiffin). MARYLAND - More common than H. postica (alfalfa weevil). (U. Md., Ent. Dept.). GEORGIA - Moderate on crimson clover, Dougherty County. (Hays).

LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) - OHIO - Adults averaged 1 per 25 sweeps in north-central area; 3 to 4 per 25 sweeps in some Morrow County fields (Richter).

SWEETCLOVER WEEVIL (Sitona cylindricollis) - OHIO - Adult damage to clover noted in many fields in northwestern areas. Damage ranged 5-20 percent. Feeding observed in at least one field in Van Wert, Paulding, Defiance, Seneca, and Hancock Counties. (Richter).

A WEEVIL (Sitona scissifrons) - WISCONSIN - Averaged 1 per 30 sweeps in alfalfa on sandy soils in western Dane County. (Wis. Ins. Sur.).

PEA APHID (Acyrtosiphon pisum) - DELAWARE - First of season on alfalfa in New Castle County. (Burbutis). MARYLAND - Ranged 6-10 per sweep in 10 acres of alfalfa near Beltsville, Prince Georges County. (U. Md., Ent. Dept.). VIRGINIA - Light, averaged less than 80 per 100 sweeps, in Montgomery and Botetourt Counties. (Allen). OHIO - Wingless adults in clover in Seneca, Hancock, and Harding Counties; about one per sweep. Activity early this year; could reach economic levels. (Richter). ILLINOIS - Appearing on some alfalfa in southern area. Not yet serious. (Ins. Sur. Bull.). WISCONSIN - Increasing slowly and averaged 1 per 10 sweeps in alfalfa near Mazomanie, Dane County. (Wis. Ins. Sur.). MISSOURI - Averaged 300 per 10 sweeps in alfalfa in Pemiscot and New Madrid Counties. (Jones). ARKANSAS - Increasing; found on legumes in all sections. Highest counts 1,200-1,400 per 100 sweeps in crimson clover in Drew County. (Boyer). KANSAS - Ranged 10-40 per 10 sweeps of alfalfa in Neosho, Wilson, and Butler Counties. (Redding). OKLAHOMA - Moderate to heavy on alfalfa in Kingfisher, Grady, and Garvin Counties. Light and scattered in several other south-central counties. Counts per 10 sweeps by county averaged 275 in Payne and 70 in Noble. Averaged 75 per square foot in Tillman County. (Okla. Coop. Sur.). NEW MEXICO - Light on alfalfa in Dona Ana, Eddy, Torrance, and Bernalillo Counties. Heavier infestations causing damage in Chaves County and controls being applied. (N.M. Coop. Rpt.).

TARNISHED PLANT BUG (Lygus lineolaris) - DELAWARE - First adults of season on alfalfa in Kent County. (Burbutis). OHIO - Adults abundant and active in northwest and throughout southern areas. (Richter). ILLINOIS - Appeared in southern area with 100 per 100 sweeps of alfalfa. (Ill. Ins. Rpt.). OKLAHOMA - Averaged 3 per 10 sweeps of Noble and Payne County alfalfa. (Okla. Coop. Sur.). ALABAMA - Adults and nymphs ranged 2-10 per sweep on crimson clover throughout central and southern areas. Many adults newly developed from first-generation nymphs of 1969. (McQueen).

LYGUS BUGS (Lygus spp.) - KANSAS - Adults 4-9 per 10 sweeps of alfalfa in Wabaunsee, Lyon, Osage, and Coffey Counties. (Simpson).

MEADOW SPITTLEBUG (Philaenus spumarius) - DELAWARE - First nymphs of season on alfalfa in New Castle County. (Burbutis). OREGON - New nymphs on alfalfa April 11 at Kiger Island, Benton County. (Westcott).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Light on alfalfa in Coal and Johnston Counties. (Okla. Coop. Sur.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - ALABAMA - No overwintered adults found in 3 southeast counties. (McQueen et al.). GEORGIA - Hibernating weevils per acre by county: Randolph 0-806; Spalding 0-2,420 (average 402). (Beckham).

BOLLWORMS (Heliothis spp.) - ALABAMA - First to third instars averaged 1 per 10 sweeps in crimson clover field borders in Baldwin and Escambia Counties. (McQueen).

TOBACCO THRIPS (Frankliniella fusca) - ALABAMA - Adults of this and other thrips on newly emerged cotton checked in Henry and Covington Counties. Adults 1-2 per plant on 10-25 percent of small plants. More numerous on plants near field borders than in center of fields. (Pike et al.).

TOBACCO

FLEA BEETLES - GEORGIA - Heavy on newly set tobacco in Tift County. (Giardeau).

POTATOES, TOMATOES, PEPPERS

SUGAR-BEET WIREWORM (Limonijs californicus) - OREGON - Infested seed potatoes in 30-acre field near Canby, Clackamas County. Larvae one or more (up to 6) in each of 90 percent of seed pieces examined. Field treated 2 weeks earlier (just before planting) with a chlorinated hydrocarbon. (Crowell).

THREE-LINED POTATO BEETLE (Lema trilineata) - ALABAMA - Few adults on potatoes in Henry County; seldom seen in State in recent years. (McQueen).

COLE CROPS

DIAMONDBACK MOTH (Plutella xylostella) - FLORIDA - Abundant on wild crucifers or inadequately treated cole crops at Belle Glade, Palm Beach County. (Genung).

CABBAGE LOOPER (Trichoplusia ni) - FLORIDA - Eggs on all cabbage sampled in untreated plots at Sanford, Seminole County, April 10; early instar larvae infested 15-20 percent of plants; none on treated cabbage. Larvae very light on cole crops, adults increasing in traps at Belle Glade, Palm Beach County, April 15. Collected and determined by W.G. Genung and G.L. Greene. (Fla. Coop. Sur.).

GENERAL VEGETABLES

ASPARAGUS BEETLE (Crioceris asparagi) - DELAWARE - Adults very common on asparagus in one area of Kent County. (Burbutis).

CABBAGE LOOPER (Trichoplusia ni) - NEW MEXICO - Control on lettuce very effective. Populations remain light. (Chappell, Campbell).

WESTERN FLOWER THRIPS (Frankliniella occidentalis) - NEVADA - Medium on green onions in Moapa Valley, Clark County. (Yamashita, Zoller).

SUGAR-BEET ROOT MAGGOT (Tetanops myopaeformis) - COLORADO - Larvae 0-11 per square foot in old beet fields at Windsor and Lucerne, Weld County. (Wedderburn).

CORRECTIONS

CEIR 19(14):251 - AMERICAN-DOG TICK (Dermacentor variabilis) - Last sentence in paragraph: American dog tick in Utah ... should read ROCKY MOUNTAIN WOOD TICK (Dermacentor andersoni) in Utah ...

CEIR 19(16):276 - PEA APHID (Acyrthosiphon pisum) should read ... (Acyrrhosiphon pisum).

CEIR 19(16):283, 284 - HAWAII INSECT REPORT - New State Record - ... a MUSCID FLY (Liste leucospila (Wiedemann)) ... should read ... a MUSCID FLY (Lispe leucospila (Wiedemann)) ...

LIGHT TRAP COLLECTIONS

FLORIDA - Gainesville - 4/11-17, BL - Armyworm (Pseudaletia unipuncta) 4, beet armyworm (Spodoptera exigua) 4, black cutworm (Agrotis ipsilon) 4, corn earworm (Heliothis zea) 5, granulate cutworm (Feltia subterranea) 62, salt-marsh caterpillar (Estigmene acrea) 3, tobacco budworm (H. virescens) 3, variegated cutworm (Peridroma saucia) 4, yellow-striped armyworm (Prodenia ornithogalli) 3.

MISSISSIPPI - Stoneville - 4/12-18, 2BL, 49-80° F., precip. 2.98 - Armyworm 178, black cutworm 18, corn earworm 3, salt-marsh caterpillar 4, variegated cutworm 12. MISSOURI - Fair Grove - 4/9-16 - Armyworm 12, variegated cutworm 2. TEXAS - Brownsville - 4/12-18, 2BL, 61-95° F., trace precip. - Armyworm 1, black cutworm 59, cabbage looper (Trichoplusia ni) 62, corn earworm 175, granulate cutworm 27, salt-marsh caterpillar 1, tobacco budworm 9, tobacco hornworm (Manduca sexta) 14, tomato hornworm (M. quinquemaculata) 15, variegated cutworm 10, yellow-striped armyworm 9. Waco - 4/11-17, BL - Armyworm 58, beet armyworm 1, black cutworm 3, corn earworm 16, granulate cutworm 17, variegated cutworm 53.

Weather of the week continued from page 288.

TEMPERATURE: In general, Canadian air cooled the West and the North Central States, and gulf air warmed the South Central States and the East. Temperatures tumbled sharply as a slow-moving cold front advanced eastward across the central part of the Nation. Des Moines, Iowa, registered 74° Tuesday afternoon and only 42° Friday morning. Warmest spots in the Nation included the southwestern deserts where maximums reached the 90's on 2 or 3 days and the South Central and Southeast where many stations recorded afternoon temperatures in the 80's. Minimums dropped below freezing in the northern and central Rocky Mountains on almost every night and in northern Great Plains in the latter part of the week. North Platte, Nebraska, registered 21° Friday morning. Warming trend in the Northeast was followed by weekend cooling. (Summary supplied by Environmental Data Service, ESSA.)

DECIDUOUS FRUITS AND NUTS

TORTRICID MOTHS - OREGON - First instars, probably Choristoneura rosaceana (oblique-banded leaf roller), on Red Delicious apple and on prunes at Milton-Freewater, Umatilla County, week of April 11. (Burkhart). Archips argyrospilus (fruit-tree leaf roller) eggs hatching on cherry at The Dalles, Wasco County, and Hood River, Hood River County, week of April 4. (Zwick). MARYLAND - Argyrotaenia velutinana (red-banded leaf roller) adults emerged, no egg masses yet. (U. Md., Ent. Dept.).

PERSIMMON BORER (Sannina uroceriformis) - FLORIDA - Larvae severe on 540 of 600 persimmon trees at Grand Island, Lake County, April 10. (Bentley). About 160 of 400 Japanese persimmons in nursery at Tampa, Hillsborough County, burned April 18. (Hale, Custead). First record of species in Tampa area. (Fla. Coop. Sur.).

PEACH TWIG BORER (Anarsia lineatella) - OREGON - Infested 5-10 percent of terminals in Brooks prune orchards at Yamhill and McMinnville, Yamhill County. Numbers lower in Italian prune orchards. (Roberts).

EYE-SPOTTED BUD MOTH (Spilonota ocellana) - OREGON - Larvae active on cherries in The Dalles, Wasco County, week of April 4. (Zwick).

HICKORY SHUCKWORM (Laspeyresia caryana) - FLORIDA - Adults extremely heavy in outdoor emergence cages in pecan district at Monticello, Jefferson County, April 6-10. Collected and determined by W.H. Whitcomb. (Fla. Coop. Sur.).

GREEN FRUITWORM (Lithophane antennata) - MICHIGAN - Activity increasing at Livingston County blacklight station. (Janes, Apr. 14).

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - FLORIDA - First crawlers on peach trees April 2 (April 1 last year) at Monticello, Jefferson County. Collected and determined by W.H. Whitcomb. All eggs hatched, no crawlers at Gainesville, Alachua County; 90 percent in first sedentary stage, rest in second sedentary stage. Collected and determined by L.C. Kuitert. (Fla. Coop. Sur.).

SAN JOSE SCALE (Aspidiotus perniciosus) - FLORIDA - All stages damaged 200 peach plants in nursery at Glen St. Mary, Baker County. All plants destroyed. (Collins, King).

APPLE APHID (Aphis pomi) - UTAH - Very numerous on expanding apple buds at Logan, Cache County. (Davis, Knowlton, Apr. 17). PENNSYLVANIA - Nymphs very abundant on apple buds in Adams, Franklin, and York Counties. (Tetrault, Apr. 10). MARYLAND - Remains light in most orchards at Hancock, Washington County. (U. Md., Ent. Dept.). VIRGINIA - Normally heavy at Winchester. (Hill).

ROSY APPLE APHID (Dysaphis plantaginea) - COLORADO - Nymphs abundant, 1-12 per fruit cluster, in Mesa County apple orchards. (Bulla). VIRGINIA - Normally heavy at Winchester. (Hill). MARYLAND - Hatch light in orchard at Hancock, Washington County. (U. Md., Ent. Dept.).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - INDIANA - nymphs 0-50 (average 14) per tip on apple in areas of Madison, Delaware, and Elkhart Counties. (Matthew, Apr. 11). WISCONSIN - Large colonies on Prunus probably indicate complete hatch. No predators except occasional syrphid fly egg. (Wis. Ins. Sur.).

PEAR PSYLLA (Psylla pyricola) - NEW YORK - Egg laying started April 7 in Ulster County. (N.Y. Wkly. Rpt.). OREGON - Eggs and first instars at Hood River, Hood River County, week of April 11. Heavy on unsprayed trees. (Zwick).

SPIDER MITES - WASHINGTON - Bryobia rubrioculus larvae on early prepink apple and delayed dormant prune at Kennewick, Franklin County. (Johnson, Apr. 11). OREGON - Overwintered adults of Tetranychus mcdanieli feeding on developing buds

of apple and pear in Hood River Valley, Hood River County, week of April 11. (Zwick). Not yet prevalent at Milton-Freewater, Umatilla County. (Burkhart). T. urticae (two-spotted spider mite) laying eggs on apple in Hood River Valley, Hood River County, week of April 11. Predatory mites active mostly on apple. (Zwick). COLORADO - T. urticae becoming active in apple orchards, high on fruit clusters in delayed dormant pink stage. Mostly in center of trees April 14. (Bulla).

EUROPEAN RED MITE (Panonychus ulmi) - PENNSYLVANIA - Overwintering eggs very heavy in peach trees in Adams, Franklin, and York Counties. (Tetrault, Apr. 10). MARYLAND - Eggs light, no hatch at Hancock, Washington County. (U. Md., Ent. Dept.).

CITRUS

Citrus Insect Situation in Florida - Mid-March - CITRUS RUST MITE (Phyllocoptruta oleivora) infested 69 (norm 61) percent of groves; 50 (norm 41) percent economic. Above normal and in high range. Temporary decrease expected early in May. Highest districts south, west, and north. TEXAS CITRUS MITE (Eutetranychus banksi) infested 29 (norm 41) percent of groves; 10 (norm 19) percent economic. Expected to remain below normal and in low range. Upward trend will be apparent in May as new leaves become infested. Highest districts central and east. CITRUS RED MITE (Panonychus citri) infested 29 (norm 48) percent of groves; 9 (norm 17) percent economic. Below normal in abundance and at low level. Little change evident until May when gradual increase expected. Highest district east. SIX-SPOTTED MITE (Eotetranychus sexmaculatus) in 7 percent of groves; less than 2 percent economic. Gradual increase expected, only few scattered groves will develop important infestations. GLOVER SCALE (Lepidosaphes gloverii) infested 72 (norm 80) percent of groves; 8 (norm 22) percent economic. PURPLE SCALE (L. beckii) infested 64 (norm 81) percent of groves; 6 (norm 12) percent economic. YELLOW SCALE (Aonidiella citrina) infested 78 (norm 66) percent of groves; 5 (norm 11) percent economic. CHAFF SCALE (Parlatoria pergandii) infested 39 (norm 63) percent of groves; 2 (norm 12) percent economic. BLACK SCALE (Saissetia oleae) infested 14 (norm 26) percent of groves; 4 (norm 10) percent economic. All above scales below average abundance for April. All at low or moderate levels in all districts. Gradual increase expected. An ARMORED SCALE (Unaspis citri) infested 16 percent of groves; 5 percent moderate to heavy. Populations higher for this date than prior years. Activity expected to increase in May. WHITEFLY larvae infested 57 percent of groves, 9 percent moderate to heavy; adults infested 61 percent of groves, 9 percent moderate to heavy; eggs in 50 percent of groves, 5 percent moderate to heavy. Whitefly stages near normal levels. Adults and eggs will become more numerous. MEALYBUGS still very low but expected to increase in May. APHIDS infested 58 percent of groves; 13 percent moderate to heavy. Population increased sharply, is much above normal. Expected to enter high range in April and continue high through mid-May then decrease rapidly. (W.A. Simanton (Citrus Expt. Sta., Lake Alfred)).

Quarterly Citrus Insect and Mite Outlook in Florida - April through June - This outlook is based on the assumption that weather beyond the period of the current U.S. Weather Bureau 30-day Outlook will be normal. Therefore, the forecasts given below cannot be viewed with the same degree of confidence as those in the "Insect and Disease Summary" usually released twice each month by this station.

CITRUS RUST MITE (Phyllocoptruta oleivora) expected to remain above normal in or near high range. Will be important in majority of groves. TEXAS CITRUS MITE (Eutetranychus banksi) will gradually increase to high range before June, then increase further to normal summer level. Predicted moderate to heavy for 40 percent of groves. CITRUS RED MITE (Panonychus citri) will gradually increase through June; not likely to exceed normal abundance or remain long at high level. SIX-SPOTTED MITE (Eotetranychus sexmaculatus) will appear in about 9 percent of groves before mid-June then subside. Very few infestations will be important.

BLACK SCALE (Saissetia oleae) will increase rapidly May through June and attain high level in June but not expected to exceed normal abundance for period. GLOVER SCALE (Lepidosaphes gloverii), PURPLE SCALE (L. beckii), YELLOW SCALE (Aonidiella citrina), CHAFF SCALE (Parlatoria pergandii) will change little from current low to moderate levels before mid-May when gradual increase will begin. Only few scattered groves expected to develop heavy infestations through June. An ARMORED SCALE (Unaspis citri) expected to spread and intensify in May, resulting in June population above normal level. WHITEFLY adults will be numerous until mid-May, followed by rapid increase of larval stage to normal high level for June. MEALYBUGS will appear suddenly in numerous groves after April. Increase to normal summer high level expected through June. APHIDS will remain at abnormally high level through April then rapidly subside in May. (W.A. Simanton)

CALIFORNIA RED SCALE (Aonidiella aurantii) - ARIZONA - Two infestations at Tucson, Pima County, brings total to 48 infested properties in area. (Ariz. Coop. Sur.).

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - Light to moderate on many trees in Salt River Valley, Maricopa County. (Ariz. Coop. Sur.).

SMALL FRUITS

A TENT CATERPILLAR (Malacosoma californicum ssp.) - OREGON - First and mostly second instars abundant on golden currant April 10 near The Dalles, Wasco County. (Westcott).

STRAWBERRY LEAF ROLLER (Ancylis comptana fragariae) - OREGON - Adults active on strawberry near Scappoose, Columbia County. No larvae or webbed leaves present. (Rosenstiel).

MEADOW SPITTLEBUG (Philaenus spumarius) - OREGON - Hatching on strawberry at Scappoose, Columbia County. Hatch coincided with about 5 percent bloom on Hood variety plants. (Rosenstiel).

FOREST AND SHADE TREES

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - TEXAS - Several large infestations being salvaged and some smaller outbreaks obscured by fall and winter hardwood discoloration caused carryover of known beetle spots for first year since 1962. On State and private lands 2,399 spots detected and 7,229 trees cut in 106 suppressed infestations during January through March. For same period in 1968: 266 spots detected and 1,243 trees cut in 67 controlled spots. Salvaged or chemically treated 9,633 trees on national forests; 242,000 board feet and 203 cords utilized. Losses occurred on Angelina, Big Thicket, Tenaha, and Yellowpine Ranger Districts. (Ollieu, For. Pest Activity Rpt.).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - TEXAS - Scattered number of small outbreaks reported January through March. Chemically treated 3 sites and salvaged 2 others. Infested 350 trees in Colorado, Houston, Jasper, Nacogdoches, and Shelby Counties. Infestations resulted from logging, fire, lightning, and excessive rain; damage static to increasing. (Ollieu, For. Pest Activity Rpt.).

DEODAR WEEVIL (Pissodes nemorensis) - TEXAS - Damage apparent over eastern area where needles shed from pine leaders killed by adult and larval feeding. Most damage in sapling to pole stands of open grown stock. Occasional feeding on younger and older trees visible. (Ollieu, For. Pest Activity Rpt., Jan.-Mar.).

TEXAS LEAF-CUTTING ANT (Atta texana) - TEXAS - Damaged new pine plantations and other young pine growth. Fed on all pine species on about 1,000 acres in Angelina, Cherokee, Houston, Montgomery, San Augustine, and Shelby Counties. Controls applied. (Ollieu, For. Pest Activity Rpt., Jan.-Mar.).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - KANSAS - Adult emergence began April 7 (5 adults in light traps) and peaked April 14 (109 adults taken) in Riley County. (Thompson, Sorensen).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - FLORIDA - First adult of year in blacklight trap at Gainesville, Alachua County, April 14; increased to 15 per night 3 nights later. (Mead). OKLAHOMA - Very heavy on wild plum in Major County. (Okla. Coop. Sur.). ARKANSAS - First and second instars on wild cherry at Fayetteville, Washington County. (Boyer). TENNESSEE - Tents on wild cherry and apple trees in central and eastern areas. (Pless et al.). INDIANA - Hatch begun in southern area. Small larvae in 2-inch tents on wild cherry in southwest and south-central districts. Webs on 5 percent of trees checked. (Huber, Apr. 11). OHIO - First small tents detected in Ross County April 9 and in Adams and Scioto Counties April 11 (Scholler, Heazlit); near Kent, Portage County, April 17 (Gilbertson); and in Wayne County April 15 (Styer). DELAWARE - Tents and young larvae common on wild cherry trees through most of State. (Burbutis). VIRGINIA - Infesting trees in Rockbridge, Augusta, Montgomery, Roanoke, Rockingham, and Shenandoah Counties. Tents up to 30 (average 3-4) per tree. (Allen). Tents 5-10 per tree in Roanoke and Bedford Counties. Probably second instar. (Saucier, Jones, Apr. 10). Tents 1-3 per wild cherry tree in York County. Infestations spotty. (Tate, Apr. 10).

GEOMETRID MOTHS - MICHIGAN - Paleacrita vernata (spring cankerworm) light compared with 1968 at Livingston County blacklight trap. Fluctuating nightly temperatures moderated activity of this and Alsophila pometaria (fall cankerworm) in county. (Janes, Apr. 14). WISCONSIN - Caught 10 P. vernata in blacklight trap April 8-16 at Mazomanie, Dane County. (Wis. Ins. Sur.). NORTH DAKOTA - P. vernata males and females emerged at Fargo, Cass County. Females light in tanglefoot bands. Males increasing around lights. (Post).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - MINNESOTA - Pupating at St. Paul, Ramsey County; some larvae but most in prepupal stage. (Minn. Ins. Rpt.).

CHRYSOMELID BEETLES - ALABAMA - Overwintered adults of Chrysomela scripta complex (cottonwood leaf beetles) in normal numbers on willows and cottonwoods in southern and central areas. Egg laying continues. Many groups of small larvae feeding on willow on lawns, along streams, and roadsides. (McQueen). OKLAHOMA - Pyrrhalta luteola (elm leaf beetle) adults moderate on Siberian elm in Payne County. Blepharida rhois adults active in Payne and Noble Counties. (Okla. Coop. Sur.).

BIRCH LEAF MINER (Fenusa pusilla) - OREGON - Adults emerged in Washington County. (Goeden).

MAN AND ANIMALS

SCREW-WORM (Cochliomyia hominivorax) - Nine cases reported in U.S. April 13-19 as follows: TEXAS - Bee 2, Brooks 1, Hidalgo 1, Jim Wells 1, Medina 1, Willacy 1; ARIZONA - Cochise 2. Total of 168 cases reported in portion of Barrier Zone in Republic of Mexico April 6-12 as follows: Sonora 93, Chihuahua 30, Coahuila 3, Nuevo Leon 8, Tamaulipas 34. Six cases reported in Mexico south of Barrier Zone. Barrier Zone is area where eradication operation underway to prevent establishment of self-sustaining population in U.S. Sterile screw-worm flies released: Texas 47,668,000; New Mexico 2,160,000; Arizona 7,500,000; Mexico 100,680,000. (Anim. Health Div.).

CATTLE GRUBS (Hypoderma spp.) - ILLINOIS - Statewide survey of H. lineatum (common cattle grub) and H. bovis (northern cattle grub) in untreated native 1 to 2-year-old beef and dairy cattle completed. Highest average (26.2 grubs per head) in Massac County. Counts by district: North, 586 grubs in 333 cattle; central, 176 in 249; and south, 775 in 246. State counts: 206 grubs in 445 dairy cattle;

1,331 in 383 beef cattle; overall 1,537 in 828 head. (Ill. Ins. Rpt.). OKLAHOMA - Light to moderate numbers of H. lineatum adults continue to annoy cattle in most areas. (Okla. Coop. Sur.). FLORIDA - H. lineatum averaged 1 grub per head April 4, lowest this year. Collected and determined by M.J. Janes. (Fla. Coop. Sur.).

HORN FLY (Haematobia irritans) - OKLAHOMA - Ranged 50-100 per head on Major County cattle; light to moderate in Cotton, Garvin, and Payne Counties. (Okla. Coop. Sur.). ALABAMA - Buildup increased on beef cattle and some dairy herds in southern and central areas. Ranged 25-100 on many cattle along southern State line up to Montgomery, Montgomery County. Rapid buildup probably due to high daytime and night temperatures, good moisture, and high winter survival of pupae. (McQueen).

MOSQUITOES - ALABAMA - Egg laying by Culex pipiens quinquefasciatus and probably other species widespread during favorable April weather. Larvae numerous in many containers examined through southern and central areas. Extreme annoyance at farm ponds in Sumter and other western counties. (McQueen). OKLAHOMA - Culiseta inornata larvae numerous in containers at Stillwater, Payne County. Some adults emerged. Larvae of Aedes hendersoni collected from treehole in same area. (Okla. Coop. Sur.).

A HORSE FLY (Hybomitra nigricans) - OKLAHOMA - Up to 75 (average 30) per head on cattle checked at Atoka, Atoka County, and Heavener area, Le Flore County, attacking mostly head area. (Okla. Coop. Sur.).

SHORT-NOSED CATTLE LOUSE (Haematopinus eurytarnus) - OKLAHOMA - Heavy on cattle in Major, Cotton, and Hughes Counties. (Okla. Coop. Sur.).

HOG LOUSE (Haematopinus suis) - ALABAMA - Very heavy on herd of 3 brood sows and 20 pigs at farm in Covington County. Herd closely confined where reinfestation continues to occur. (McQueen).

HARD-BACKED TICKS - OKLAHOMA - Amblyomma americanum (lone star tick) continues annoying in many areas in eastern half of State. Adults most common. (Okla. Coop. Sur.). WYOMING - Dermacentor andersoni (Rocky Mountain wood tick) active in Washakie County. (Parshall).

HOUSEHOLDS AND STRUCTURES

BROWN SPIDER BEETLE (Ptinus clavipes) - IOWA - Collected in bathroom at Independence, Buchanan County, April 12. Collected in bathroom and living room at Blencoe, Monona County. These are new county records. (Iowa Ins. Sur.).

SUBTERRANEAN TERMITES (Reticulitermes spp.) - OKLAHOMA - Swarming of winged reproductives very common in many areas. Termites collected in home at Duncan, Stephens County, determined R. virginicus by D.E. Howell. (Okla. Coop. Sur.). UTAH - R. hesperus (western subterranean termite) damaging home at Castle Dale, Emery County. (Day, Knowlton, Apr. 17).

ORIENTAL COCKROACH (Blatta orientalis) - OREGON - Heavy in basement at Corvallis, Benton County. (Capizzi).

BENEFICIAL INSECTS

CONVERGENT LADY BEETLE (Hippodamia convergens) - ARIZONA - Averages per 100 sweeps in Graham County: 25 adults on alfalfa and 65 adults and larvae on grain. (Ariz. Coop. Sur.). COLORADO - This and other species very high inside bunch grasses at Loveland, Larimer County. (Thatcher). OKLAHOMA - Ranged 3-6 per 10 sweeps of alfalfa in Payne and Noble Counties; averaged 1.5 per square foot in

Tillman County. (Okla. Coop. Sur.). ALABAMA - Adults ranged 1-5 and larvae 2-10 per sweep in crimson clover along roadsides in central and southern areas. First generation adults present. (McQueen). FLORIDA - Increasing, 6 adults and 2 larvae in 100 sweeps of oats infested with English grain aphid at Gainesville, Alachua County. (Mead).

A MELYRID BEETLE (Collops vittatus) - ARIZONA - Averaged 10 adults per 100 sweeps of Maricopa County alfalfa. (Ariz. Coop. Sur.).

GREEN LACEWINGS (Chrysopa spp.) - ARIZONA - Averaged 40 per 100 sweeps of Graham County alfalfa. (Ariz. Coop. Sur.).

DAMSEL BUGS (Nabis spp.) - ARIZONA - Average per 100 sweeps on alfalfa by county: Graham 25, Maricopa 10. (Ariz. Coop. Sur.). OKLAHOMA - Ranged 1-3 per 10 sweeps in Payne and Noble County alfalfa. (Okla. Coop. Sur.).

FLOWER BUGS (Orius spp.) - ARIZONA - Average per 100 sweeps by county: Graham 40 on alfalfa; Maricopa 20 on sugarbeets. (Ariz. Coop. Sur.). FLORIDA - O. insidiosus increasing, on rye at Gainesville, Alachua County; 8 adults in 100 sweeps. (Mead).

A BIG-EYED BUG (Geocoris punctipes) - ALABAMA - Adults and nymphs ranged 2-10 per sweep in crimson clover in southern and central areas. (McQueen).

HONEY BEE (Apis mellifera) - WASHINGTON - Winter mortality up to 60 percent in Yakima Valley, Yakima County; 40 percent at Cashmere, Chelan County; 50 percent at Spokane, Spokane County. (Johnson, Howell, Apr. 11).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CARIBBEAN FRUIT FLY (Anastrepha suspensa) - FLORIDA - Larvae abundant, increasing rapidly in loquat at Wauchula, Hardee County, and Arcadia, De Soto County. (Rhodes).

CEREAL LEAF BEETLE (Oulema melanopus) - OHIO - Adults active throughout north-central areas. Highest in Morrow County; 8 per 25 sweeps in field north of Fulton. Feeding damage light. (Richter).

GRASSHOPPERS - OKLAHOMA - Young Melanoplus sp. nymphs averaged 2 per 10 sweeps on alfalfa margins in McClain County week of April 7. Light Ageneotettix deorum hatch in pastureland week of April 14 in Garfield and Kingfisher Counties. (Okla. Coop. Sur.).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - GEORGIA - Light along State highway at Folkston, Charlton County, April 10. Collected by K.L. Davenport. Determined by D.R. Smith. This is a new county record. (PPC). TENNESSEE - None found in Coffee, Cumberland, and Grundy Counties. (Greene et al.).

PINK BOLLWORM (Pectinophora gossypiella) - NEVADA - Larvae in double seeds in surface trash samples, larvae and pupae in soil samples in cotton field in Moapa Valley, Clark County. (PPC, Nev. Dept. Agric.).

WHITE-FRINGED BEETLES (Graphognathus spp.) - GEORGIA - Heavy in field of tobacco in Cook County. Damage 5-10 percent. (Smith). This is a new county record. (PPC).

HAWAII INSECT REPORT

New State Record - A LEAFHOPPER (Empoasca stevensi) moderate on plumeria at University of Hawaii, Honolulu, Oahu, in January 1969. This leafhopper has been reported on papaya in Florida and is considered an important pest of avocado in Ecuador. Closely resembles E. solana (southern garden leafhopper). Determined by J.P. Kramer. (Beardsley).

Turf - Adults of HAWAIIAN GRASSBUG (Oronotus hawaiiensis) heavy, 50 per 5 sweeps, on Bermuda grass along road shoulders at Ewa and Waianae and at airport and vicinity in Honolulu, Oahu. (Shiroma et al.).

Vegetables - BEAN FLY (Melanagromyza phaseoli) larvae generally light in commercial snap beans throughout Oahu. Medium to heavy in seedlings and some older plantings of snap and yard-long beans in gardens at Ewa, Waialua, and Kahuku. DIAMONDBACK MOTH (Plutella xylostella) larvae severe (as many as 25 per leaf) and adults medium in white-stemmed cabbage field at Halawa, Oahu. (Suzukawa). SOUTHERN GREEN STINK BUG (Nezara viridula) eggs, nymphs, and adults increasing in mustard cabbage fields at Waianae, Oahu. Some adults bore eggs of Trichopoda pennipes var. pilipes (a tachina fly). (Yamamoto).

Miscellaneous Insects - Kill of a GRASSHOPPER (Oedaleus abruptus) excellent in treated localities at Hickam Air Force Base and adjacent Fort Kamehameha in Honolulu, Oahu. Two new, separate infested areas found at Hickam Air Force Base; one adult found at Fort Kamehameha. Treatments and surveillance continuing. (Olson). RED-SHOULDERED STINK BUG (Thyanta accerra) nymphs and adults on Oahu remain light on swollen fingergrass at Sand Island, in airport area, and leeward coast from Ewa to Makaha. One adult found feeding on strawberry guava at Koko Head. (Funasaki et al.). KOA HAOLE LOOPER (Anacamptodes fragilaria) moths numerous and resting on building adjacent to koa-haole (Leucaena leucocephala) growths at Hickam Air Force Base, Honolulu, Oahu. Loopers lightly feeding on leaves of rose, hibiscus, pear, kiawe, slender mimosa, and koa-haole in various areas of Oahu. (Takabayashi, Nakao).

INSECT DETECTION

New State Record

A LEAFHOPPER (Empoasca stevensi) - HAWAII - Found on plumeria at Honolulu, Oahu, January 1969. Determined by J.P. Kramer. (p. 301).

New County Records

GARDEN SYMPHYLAN (Scutigerella immaculata) - IOWA - Webster County. (p. 290).

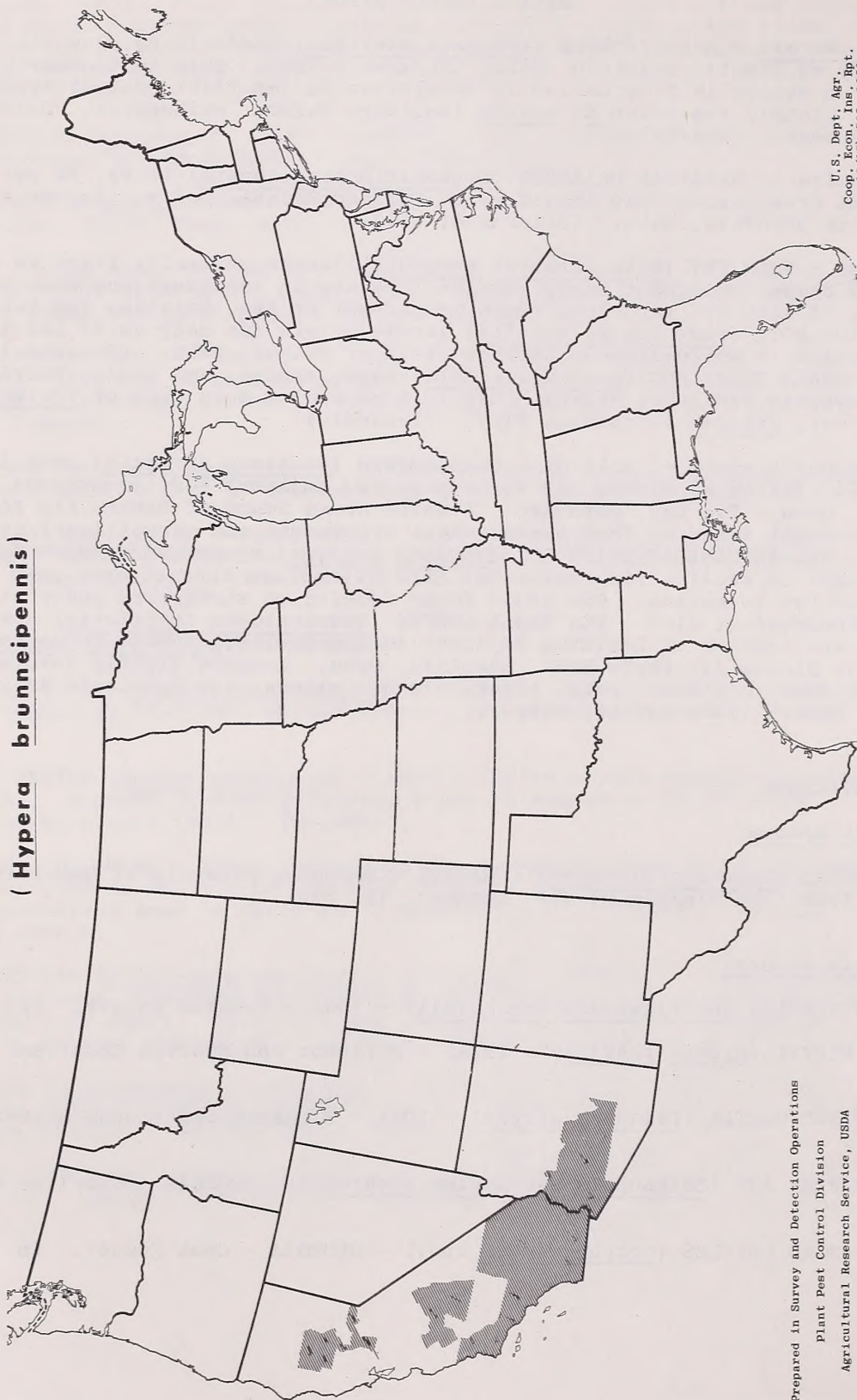
ALFALFA WEEVIL (Hypera postica) - TEXAS - Burleson and Wharton Counties. (p. 292).

BROWN SPIDER BEETLE (Ptinus clavipes) - IOWA - Buchanan and Monona Counties. (p. 299).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - GEORGIA - Charlton County. (p. 300).

WHITE-FRINGED BEETLES (Graphognathus spp.) - GEORGIA - Cook County. (p. 300).

Distribution of Egyptian Alfalfa Weevil
(Hypera brunneipennis)



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